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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/512,107

10/21/2004

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003854

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03/31/2008

EXAMINER

CROUSE, BRETT ALAN

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

03/31/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/512,107	Applicant(s) SUZUKI ET AL.	
	Examiner Brett A. Crouse	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20070423;20060627</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 27 June 2006 has been entered.

Response to Amendment

The rejection of claims 1 and 3-6 under 35 USC 112, second paragraph is overcome by the amendment, filed 27 June 2006.

The provisional obviousness type double patenting rejection over application number 10/339,479 is withdrawn. Application 10/339,479 has been allowed and issued as US 7,294,391.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1 and 3-6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The amendment adds the negative limitation “wherein the film contains no fluorine.” The specification is silent as to a teaching of the use or restrictions on the use of fluorine as a component of the film. The addition of the limitation is believed to introduce new matter into the claims.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 and 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tada et al., US 6,074,981, hereinafter known as Tada.

Tada teaches:

As to claims 1 and 3:

Column 2, line 59 through column 3, line 4, teaches a photocatalyst layer preferably comprising titanium oxide. The layer can be formed by vapor deposition. Materials having various valence states are presented.

Column 3, lines 5-17, teach a film thickness of 5 nanometers to 2 microns, preferably 20 nanometers to 2 microns and most preferably 50 nanometers to 200 nanometers.

Column 3, lines 18-40, teach various deposition techniques. The passage additionally teaches deposition upon a substrate and provides substrate forms, such as sheets and fibers.

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Column 4, lines 41-55, and column 6, lines 13-15, teach a fibrous substrate on which separate photocatalyst and fluorine containing layers are deposited.

Column 3, lines 33-45, teach light transmittance of the substrate. It is submitted that the vapor deposited film would in the absence of unexpected results exhibit the transparency as claimed in the instant invention as titanium oxide is a preferred material and used in overlapping thickness ranges in both the prior art reference and the instant invention.

As to claim 5:

Column 4, lines 41-45, teaches a fiber cloth.

Column 7, lines 17-20, a woven or non-woven cloth substrate.

As to claim 6:

Column 3, lines 31-34, teach fibrous substrates.

Column 4, line 44, and column 7, lines 18-23, teaches various fibers.

As to claim 4:

Column 6, lines 35-41, and column 17, lines 12-18, teach oxygen manipulation during the process.

Column 14, lines 47-65, and column 16, lines 9-23, teach vapor deposition.

Response to Arguments

With respect to the rejection of claims 1 and 3-6 under 35 USC 103(a) applicant argues a mixed oxide layer which does not comprise fluorine is not taught or suggested by Tada and as such independent claims 1 and 4 comprising the amended limitation and claims dependent therefrom overcome the rejection.

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The examiner respectfully disagrees for two reasons. First, attention is directed to Comparative Example 5, in column 16 of Tada. The example teaches a fluorine free titanium oxide film. Secondly, Tada teaches the deposition of separate oxide and fluorinated layers. This intermediate product also possesses an oxide film free of fluorine.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brett A. Crouse whose telephone number is (571)-272-6494. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel H. Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/B. A. C./
Examiner, Art Unit 1794

/Terrel Morris/
Supervisory Patent Examiner
Group Art Unit 1794